09|864,457 PN-892

(12) UK Patent Application (19) GB (11) 2 368 934 (13) A

(21) Application No 0027408.4

(22) Date of Filing 09.11.2000

(71) Applicant(s)
World Information on Net (WIN) Limited
(Incorporated in the United Kingdom)
Hillbrow House, Hillbrow Road, ESHER, Surrey,
KT10 9NW, United Kingdom

(72) Inventor(s)
Eric Elgrably

(74) Agent and/or Address for Service
A J Bridge-Butler
G F Redfern & Co, 7 Staple Inn, Holborn, LONDON,
WC1V 7QF, United Kingdom

(51) INT CL⁷
G06F 17/60

(52) UK CL (Edition T)
G4A AUXF

(56) Documents Cited
WO 00/46686 A1   US 6131087 A
US 6035289 A   US 5664115 A

(58) Field of Search
UK CL (Edition S) G4A AUXF AUXX
INT CL⁷ G06F 17/60
ONLINE: EPODOC, INTERNET, JAPIO, WPI

(54) Abstract Title
Computer system for matching customers & suppliers

(57)   A computer system is used for matching offers and demands, particularly in the field of transportation of people or goods. The system receives such demands and offers both directly from buyers and suppliers, and also from secondary data processing systems, which in turn receive data from other groups of customers and vendors. If the system cannot match a new offer/demand to a corresponding demand/offer, the offer/demand is stored in memory and/or transmitted to one or more of the secondary computer systems for later matching.
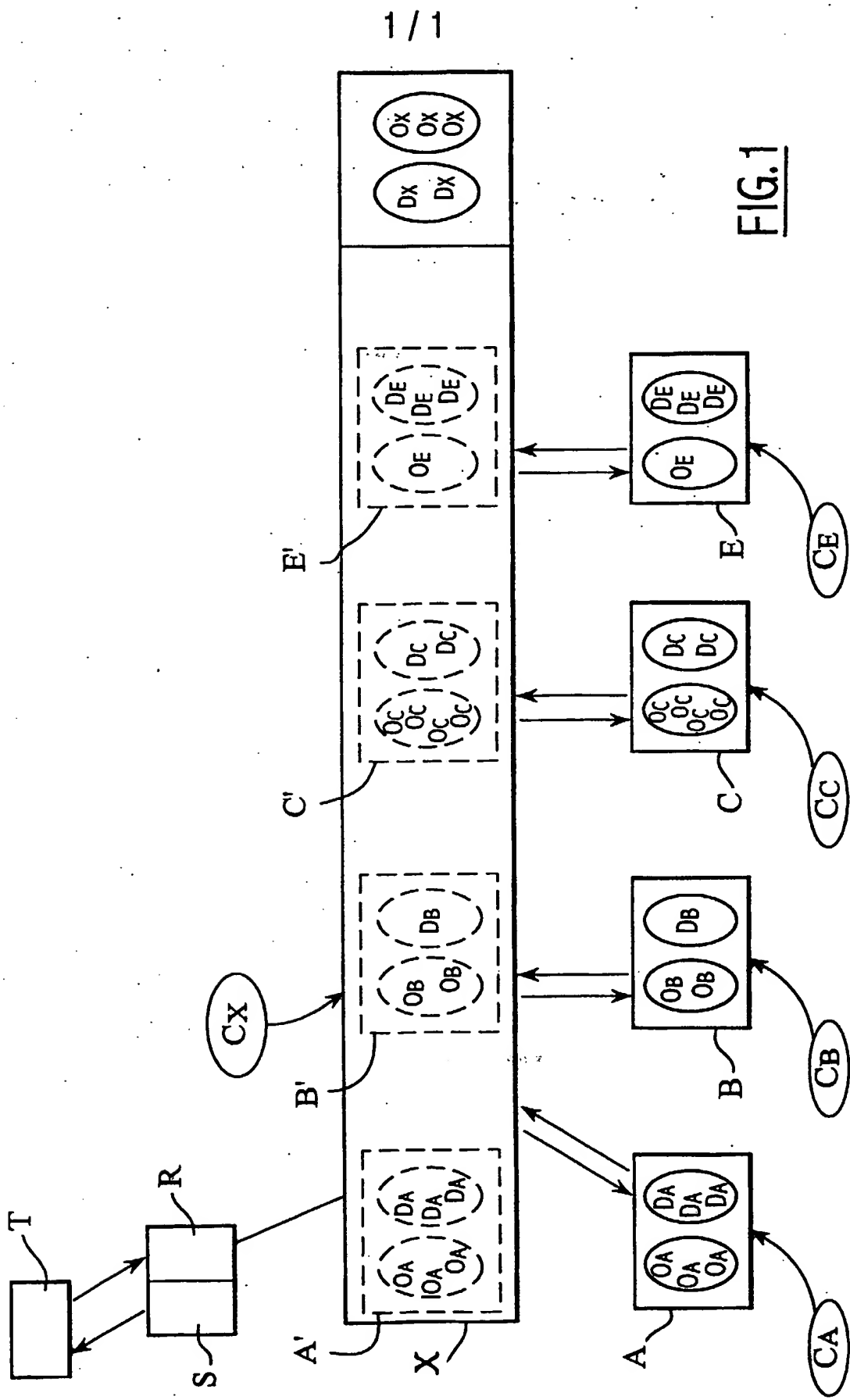
GB 2 368 934 A

FIG.1

A DATA PROCESSING SYSTEM INTENDED TO FACILITATE CONFRONTING AN OFFER AND A DEMAND

The present invention relates to a data processing system intended to facilitate confronting an offer and a

5   demand, more particularly, although not exclusively, in the field of transporting goods or travelers.

A data processing system intended to facilitate confronting an offer and a demand, also referred to as a freight exchange in the case of transporting goods,

10   receives offers from hauliers and demands from customers requiring to transport a given volume of goods from a departure point to an arrival point on a given date.

Users, whether hauliers or customers, must usually be subscribers to the freight exchange and their offers

15   or demands receive a response only once they have been identified.

An object of the present invention is to provide a new data processing system which is capable of increasing the number of offers/demands consulted with the aim of

20   responding to a demand/offer, to facilitate satisfying the user originating the demand/offer.

The new data processing system, adapted to confront an offer and a demand, in the field of freight or other fields, is characterized in that it is adapted to:

25   - receive requests corresponding to new offers/demands, the requests being formulated by users of the data processing system,

- receive data corresponding to offers/demands not yet satisfied from a plurality of secondary data

30   processing servers, the secondary data processing servers being themselves adapted to confront an offer and a demand,

- after receiving a new request corresponding to a new offer/demand formulated by a user of the data

35   processing system, verify if there is an offer/demand not yet satisfied, received from a secondary data processing server or transmitted previously by a user of the data

processing system, that can respond to the new request, and

   - if not, store the new request in the data processing system and/or send data corresponding to the
5 new request to at least one of the secondary data processing servers to enable confrontation with an offer/demand responding to the new request received subsequently by the secondary data processing server.

   The data processing system of the invention provides
10 virtual centralization of offers and demands, so to speak, and, with the invention, a user originating an offer or a demand need only consult one data processing system to obtain a response, because the data processing system searches secondary data processing servers to f
15 a demand responding to the offer or vice-versa.

   Thus, in a freight context, the data processing system of the invention can automatically interrogate a plurality of freight exchanges, and the user, whether a haulier or a customer, no longer has to consult the
20 freight exchanges successively to obtain a response to their offer or demand.

   The data processing system is preferably adapted to exchange data with a plurality of secondary data processing servers, at least two of which secondary data
25 processing servers use different communication protocols.

   At least one of the secondary data processing servers can be adapted not to respond to a request corresponding to an offer or to a demand until it has received identification information for identifying the
30 user originating the request.

   The data processing system is advantageously adapted, when a request corresponding to an offer/demand is sent to it by a user of the data processing system, to search for an offer/demand responding to the request in
35 all the offers and demands consulted by the secondary data processing servers and in all the offers and demands internal to the data processing system.

The data processing system is preferably adapted to store and update automatically all offers and demands consulted in order to respond to a new request sent by a user of the data processing system, updating being
5   effected at sufficiently short time intervals for the user of the data processing system to have access to recent offers or demands sent to the secondary data processing servers by the users thereof.

The data processing system is preferably adapted to
10   store and update automatically the set of offers and demands consulted in order to respond to a new request sent by a user of the data processing system and, for each new offer/demand corresponding to a new request and included in the set, to verify if the offer/demand
15   responds to a request previously formulated by a user of the data processing system.

When a user of the data processing system is a subscriber to only some of the secondary data processing servers consulted by the data processing system, in the
20   event of a request formulated by that user which the data processing system has been unable to satisfy, the data processing system can transmit the request that has not been satisfied to only the secondary data processing server(s) of which the user is a client, to enable the
25   request to be confronted with an offer/demand received subsequently by the secondary data processing server(s).

Each offer/demand repatriated by the data processing system from a secondary data processing server is advantageously assigned an index including information at
30   least including the identity of the secondary data processing server originating the offer/demand.

The index preferably further includes information on the frequency with which the offer/demand has been consulted.
35   The index can further include information on for how long the offer/demand has been processed by the data processing system.

The data processing system is preferably adapted to
cease presenting an offer/demand to the users of the data
processing system when a predetermined variable of the
index which is incremented on each consultation exceeds a
5 predetermined value.

Accordingly, offers/demands which are too old can be
verified to see if they are still current, or even
eliminated, which makes the information supplied by the
data processing system more reliable.

10 The data processing system is advantageously adapted
to effect a selection from multiple offers/demands
corresponding to the same request in accordance with
predetermined criteria.

The data processing system is preferably adapted to
15 enable a user unknown to a secondary data processing
server to communicate to the data processing system
identification information required by that secondary
data processing server with a view to subscribing to it.

A request corresponding to an offer/demand can
20 include space and time data, in particular if it is an
offer/demand for transport.

In one particular embodiment of the invention, the
data processing system includes a sending device for
sending a response to a user who has formulated a request
25 by electronic mail or facsimile or as a voice message.

The data processing system preferably includes a
receiving system for receiving location information
concerning the geographical location of the user of the
data processing system and/or that of the travelers,
30 goods or services concerned, in order to advise a user
who has formulated a request including space data that an
offer/demand satisfying that request is located near that
user or on their route.

The invention also provides a method of facilitating
35 confronting an offer and a demand, characterized in that
it includes the supply of a data processing system as
defined above.

The invention also provides a method of facilitating confronting an offer and a demand, characterized in that it includes the following steps:

- receiving requests corresponding to new offers/demands, the requests being formulated by users of the data processing system,

- receiving data corresponding to offers/demands not yet satisfied from a plurality of secondary data processing servers, the secondary data processing servers being themselves adapted to confront an offer and a demand,

- after receiving a new request corresponding to a new offer/demand formulated by a user of the data processing system, verifying if there is an offer/demand not yet satisfied, received from a secondary data processing server or transmitted previously by a user of the data processing system that can respond to the new request,

- if not, storing the new request in the data processing system and/or sending data corresponding to the new request to at least one of the secondary data processing servers to enable confrontation with an offer/demand responding to the new request received subsequently by the secondary data processing server.

In one particular implementation of the method, the offer is an offer to transport freight or travelers and the demand is a demand for transporting freight or travelers, the components of the offer or of the demand including at least the departure point and the arrival point of the goods or travelers to be transported and the date they are to be transported.

In one particular embodiment of the method, the method further includes the step of communicating in real time to the data processing system information concerning the location of the users or the goods or services concerned.

Thus terrestrial or airborne transportation means

can be equipped with terminals for automatically sending
information concerning the location and the load of the
transportation means to the data processing system.

The location information is advantageously analyzed
5   by the data processing system in the light of the
demands/offers formulated by the users of the data
processing system and information is sent to the
transportation means to report transport demands/offers
to them if the transportation means are near the goods or
10   travelers to be transported and able to transport them.

The invention will be better understood on reading
the following detailed description of a non-limiting
embodiment of the invention and on examining the
accompanying drawing.
15   Figure 1 shows a central data processing system
(also referred to as a main server) X constituting a
particular embodiment of the invention.

The data processing system X includes data
processing means comprising one or more computers,
20   possibly of different kinds, such as those usually
employed to implement Internet sites.

They are associated with data storage means and data
transmission means.

The data processing system X can communicate with
25   and exchange data with a plurality of secondary data
processing servers, of which there are four in the
example shown, namely pre-existing secondary data
processing servers A, B, C and E.

Of course, the invention is not limited to a
30   particular number of pre-existing or subsequently
developed secondary data processing servers.

Data is exchanged between the data processing system
X and the secondary data processing servers A, B, C or E
using different communication protocols.
35   Thus the data processing system X can communicate
with the secondary data processing server A via
satellite, with the secondary data processing server B

via the Internet, with the secondary data processing
server C by facsimile and with the secondary data
processing server E by videotex.

Each secondary data processing server A, B, C or E
5   confronts an offer and a demand, the offer or the demand
being formulated by a user of the secondary data
processing server.

Thus the secondary data processing server A receives
offers O_A and demands D_A from users C_A, the secondary data
10   processing server B receives offers O_B and demands D_B from
users C_B, the secondary data processing server C receives
offers O_C and demands D_C from users C_C of the secondary
data processing server C and the secondary data
processing server E receives offers O_E and demands D_E from
15   users C_E of the secondary data processing server E.

The secondary data processing servers A, B, C and E
may require a subscription or entry of information
relating to the user of the secondary data processing
server before they respond to a request corresponding to
20   an offer/demand.

In the example described here, each secondary data
processing server A, B, C or E is a freight exchange and
receives from its users C_A, C_B, C_C or C_E requests
corresponding to offers or demands for transporting
25   goods.

The secondary data processing server A, just like
the other secondary data processing servers B, C and E,
is adapted, on receiving a new request from a user C_A, to
search for an offer O_A or a demand D_A stored by the
30   secondary data processing server and responding to the
request.

The data processing system X stores all offers and
demands of the secondary data processing servers A, B, C
and E with which it is associated by successively
35   interrogating the secondary data processing servers A, B,
C and E.

This creates virtual freight exchanges A', B', C'

and E' within the data processing system X.

The data processing system X periodically updates the virtual exchanges A', B', C' and E' by storing all new offers or demands received by any of the secondary data processing servers A, B, C or E.

Thus a user C_x of the data processing system X who formulates a request corresponding to an offer or to a demand is sure to obtain a service at least equal to that it would have obtained by directly interrogating in turn each of the secondary data processing servers A, B, C or E with which the data processing system X is associated.

The data processing system X also stores offers O_x and demands D_x corresponding to requests previously formulated by other users C_x of the data processing system X and not yet satisfied.

The set of offers O_x and demands D_x constitutes a freight exchange internal to the data processing system X, as it were.

In this example, the data processing system X identifies each user C_x in order to authorize the supply of results only to authorized users C_x.

Access to the data processing system X can therefore require a subscription that has to be paid for, or access could be free but a charge levied for supplying results.

In this example, the data processing system X also enables a user C_x who already subscribes to at least one of the secondary data processing servers A, B, C or E to communicate information such as a password specific to that secondary data processing server and thereafter enabling the data processing system X to consult the secondary data processing server on behalf of the user C_x concerned.

In the case of transporting goods, the data processing system X communicates with a sending system S and a receiving system R which are themselves associated with terminals T installed on vehicles.

The terminals T transmit information concerning

their geographical location to the receiving system R.

The vehicles equipped with the terminals T are advantageously fitted with a GPS or similar system to indicate their location to the data processing system X.

5   The terminals T preferably transmit ancillary information, for example their available capacity for transporting goods and their intended route.

As mentioned above, on receiving a new request corresponding to an offer or a demand for transporting

10   goods sent to it by a user C_x, the data processing system X searches the stored offers and demands from the secondary data processing servers and the offers O_x and demands D_x corresponding to requests previously formulated by users C_x of the data processing system X for an

15   offer/demand corresponding to the new request.

If there is more than one offer/demand that can satisfy the new request formulated by the user C_x, the data processing system X proposes offers/demands to the user C_x after sorting them in accordance with

20   predetermined criteria, for example criteria of price, transport terms and conditions or insurance.

If there is no offer/demand stored in the data processing system X that can respond to a new request formulated by a user C_x, the data processing system X

25   stores the offer O_x or the demand B_x corresponding to the new request and also transmits the offer or request to the secondary data processing server(s) to which that user subscribes.

For example, if the user subscribes to freight

30   exchange A, the data processing system X deposits the offer or demand corresponding to the new request from the user in freight exchange A.

As a result, a user C_A of only the secondary data processing server A can receive a proposal in respect of

35   the offer or demand that has just been transmitted in this way by the data processing system X and the user C_x of the data processing system X who subscribes to freight

exchange A receives from the secondary data processing server A a proposal in respect of a new offer O_A or a new demand D_A responding to their request.

A user of a secondary data processing server who subscribes to that secondary data processing server and also uses the data processing system X is therefore sure to receive from the data processing system X a proposal for service which is at least equal to that which would have originated from the secondary data processing server if the data processing system X had not been used.

However, one advantage of the data processing system X is that it widens the range of offers or demands consulted, because a user of the data processing system X who is a client of only the secondary data processing server A, for example, will receive proposals in respect of offers or demands from the secondary data processing servers B, C and E without subscribing to them.

In the case of a demand for transporting goods from one point to another, for example, the data processing system X can also use the sending system S to send a proposal to complete its load to any vehicle equipped with a terminal T in the vicinity of the point of departure of the goods or whose route passes close to that departure point and which has sufficient transportation capacity.

The data processing system X advantageously assigns to the stored offers and demands an index including information such as, for example, the identity of the secondary data processing server from which the offer or the demand originates, how long the demand has been present and the frequency with which it has been consulted, in order to eliminate from the range of offers and demands consulted on receiving a new request offers and demands which are too old or have been consulted more than a predetermined number of times.

The data processing system X can therefore propose to users C_x only offers or demands which are still

current.

Generally speaking, the secondary data processing servers A, B, C and E will be consulted by the data processing system X and the offers and demands

5 repatriated to the data processing system X at a frequency selected according to how quickly the content of the offers and demands proposed by secondary data processing servers changes with time.

When a user formulates a new request, the data

10 processing system X can propose offers/demands from secondary data processing servers in a predetermined order, for example it can propose offers/demands from secondary data processing servers which charge for the service before proposing offers/demands from secondary

15 data processing servers providing free access, for example to give priority in terms of the quality of the offers/demands proposed to the users of the data processing system X.

The data processing system X advantageously enables

20 users to impose their own criteria for the presentation of offers/demands responding to a request, if necessary.

A user who has formulated a request that has not been satisfied immediately is advantageously alerted to this by the data processing system X, using any

25 appropriate transmission means, for example electronic mail or fax or a telephone call to a mobile telephone.

Of course, the invention can equally apply to the transportation of travelers, the secondary data processing servers being reservation systems associated

30 with airlines offering flights on given dates to users looking for available seats to certain destinations on given dates.

When the secondary data processing servers are reservation servers associated with airlines, if the data

35 processing system X cannot satisfy a request corresponding to a transport demand formulated by a user of the data processing system X, the latter deposits the

user's request with the reservation systems so that the
airlines can afterwards contact the user directly if a
seat becomes available that can satisfy the demand of
that user.

5   The embodiment of the invention that has just been
described can be modified in various ways without
departing from the scope of the invention.

       In particular, the invention can be applied to
confronting an offer and a demand concerning goods or
10   services other than transporting goods.

CLAIMS

1.   A data processing system (X) adapted to confront an
offer (O) and a demand (D), in particular in the field of
transporting travelers or goods, characterized in that it
5   is adapted to:
       - receive requests corresponding to new
offers/demands, the requests being formulated by users
(C_x) of the data processing system,
       - receive data (O_A, D_A, O_B, D_B, O_C, D_C, O_B, D_B)
10   corresponding to offers/demands not yet satisfied from a
plurality of secondary data processing servers (A, B, C,
E), the secondary data processing servers being
themselves adapted to confront an offer and a demand,
       - after receiving a new request corresponding to a
15   new offer/demand formulated by a user (C_x) of the data
processing system (X), verify if there is an offer/demand
(O_A, D_A, O_B, D_B, O_C, D_C, O_B, D_B) not yet satisfied, received
from a secondary data processing server (A, B, C, E) or
transmitted previously by a user of the data processing
20   system, that can respond to the new request,
       - if not, store the new request in the data
processing system and/or send data corresponding to the
new request to at least one of the secondary data
processing servers (A, B, C, E) to enable confrontation
25   with an offer/demand responding to the new request
received subsequently by the secondary data processing
server (A, B, C, E).

2.   A data processing system according to the preceding
claim, characterized in that it is adapted to:
30   - exchange data with a plurality of secondary data
processing servers (A, B, C, E) at least two of which
secondary data processing servers use different
communication protocols.

3.   A data processing system according to either of the
35   preceding two claims, characterized in that at least one

of the secondary data processing servers is adapted not
to respond to a request corresponding to an offer or to a
demand until it has received identification information
for identifying the user originating the request.

5   4.   A data processing system according to any preceding
claim, characterized in that it is adapted, when a
request corresponding to an offer/demand is sent to it by
a user (C_x) of the data processing system (X), to search
for an offer/demand responding to the request in the
10   offers (O_A, O_B, O_C, O_B) and demands (D_A, D_B, D_C, D_B)
consulted by the secondary data processing servers (A, B,
C, E) or in the offers (O_x) and demands (D_x) internal to
the data processing system.

        5.   A data processing system according to any preceding
15   claim, characterized in that it is adapted to store and
update automatically all offers and demands consulted in
order to respond to a new request sent by a user (C_x) of
the data processing system (X), updating being effected
at sufficiently short time intervals for the user (C_x) of
20   the data processing system (X) to have access to recent
offers or demands sent to the secondary data processing
servers (A, B, C, E) by the users (C_A, C_B, C_C, C_B) thereof.

        6.   A data processing system according to any preceding
claim, characterized in that it is adapted to store and
25   update automatically the set of offers and demands
consulted in order to respond to a new request sent by a
user (C_x) of the data processing system (X) and, for each
new offer/demand corresponding to a new request and
incorporated in the set, to verify if the offer/demand
30   responds to a request previously formulated by a user (C_x)
of the data processing system (X).

        7.   A data processing system according to any preceding
claim, characterized in that, for a user (C_x) of the data

processing system (X) who is a subscriber to only some
(A) of the secondary data processing servers (A, B, C, E)
consulted by the data processing system (X), in the event
of a request formulated by that user which the data
5   processing system (X) has been unable to satisfy, the
data processing system (X) transmits the request that has
not been satisfied to only the secondary data processing
server(s) (A) of which that user is a client, to enable
that request to be confronted with an offer/demand
10   received subsequently by the secondary data processing
server(s) (A).

8.   A data processing system according to any preceding
claim, characterized in that each offer/demand
repatriated by the data processing system (X) from a
15   secondary data processing server (A, B, C, E) is assigned
an index including information at least including the
identity of the secondary data processing server (A, B,
C, E) originating the offer/demand.

9.   A data processing system according to the preceding
20   claim, characterized in that the index further includes
information on the frequency with which the offer/demand
has been consulted.

10. A data processing system according to the preceding
two claims, characterized in that the index further
25   includes information on for how long the offer/demand has
been processed by the data processing system (X).

11. A data processing system according to any one of the
three immediately preceding claims, characterized in that
it is adapted to cease presenting an offer/demand to the
30   users (C_x) of the data processing system (X) when a
predetermined variable of the index which is incremented
on each consultation exceeds a predetermined value.

12. A data processing system according to any preceding claim, characterized in that it is adapted to effect a selection from multiple offers/demands corresponding to the same request in accordance with predetermined
5   criteria.

13. A data processing system according to any preceding claim, characterized in that it is adapted to enable a user (C_x) unknown to a secondary data processing server (A, B, C, E) to communicate to the data processing system
10   (X) identification information required by that secondary data processing server (A, B, C, E) with a view to subscribing to it.

14. A data processing system according to any preceding claim, characterized in that a request corresponding to
15   an offer/demand includes space and time data.

15. A data processing system according to any preceding claim, characterized in that it includes a sending device (S) for sending a response to a user (C_x) who has formulated a request by electronic mail or facsimile or
20   as a voice message.

16. A data processing system according to any preceding claim, characterized in that it includes a receiving system (R) for receiving location information concerning the geographical location of the user (C_x) of the data
25   processing system (X) and/or that of the travelers, goods or services concerned, in order to communicate to a user who has formulated a request including space data that an offer/demand satisfying that request is located near the user or on their route.

30   17. A method of facilitating confronting an offer and a demand, characterized in that it includes the supply of a data processing system as defined in any preceding claim.

18. A method of facilitating confronting an offer and a demand, characterized in that it includes the following steps:

- receiving requests corresponding to new

5 offers/demands, the requests being formulated by users (C_x) of the data processing system,

- receiving data $(O_A, D_A, O_B, D_B, O_C, D_C, O_B, D_B)$ corresponding to offers/demands not yet satisfied from a plurality of secondary data processing servers (A, B, C,

10 E), the secondary data processing servers being themselves adapted to confront an offer and a demand,

- after receiving a new request corresponding to a new offer/demand formulated by a user (C_x) of the data processing system (X), verifying if there is an

15 offer/demand $(O_A, D_A, O_B, D_B, O_C, D_C, O_B, D_B)$ not yet satisfied, received from a secondary data processing server (A, B, C, E) or transmitted previously by a user of the data processing system, that can respond to the new request,

20 - if not, storing the new request in the data processing system and/or sending data corresponding to the new request to at least one of the secondary data processing servers (A, B, C, E) to enable confrontation with an offer/demand responding to the new request

25 received subsequently by the secondary data processing server (A, B, C, E).

19. A method according to the preceding claim, characterized in that the offer is an offer to transport freight or travelers and the demand is a demand for

30 transporting freight or travelers, the components of the offer or of the demand including at least the departure point and the arrival point of the goods or travelers to be transported and the date they are to be transported.

20. A method according to either of the preceding two

35 claims, characterized in that it further includes the

step of communicating in real time to the data processing system (X) information concerning the location of the users (C_x) or the goods or services concerned.

21. A method according to any one of claims 18 to 20, characterized in that terrestrial or airborne transportation means are equipped with terminals (T) for automatically sending information concerning the location and the load of the transportation means to the data processing system (X).

22. A method according to the preceding claim, characterized in that the location information is analyzed by the data processing system (X) in the light of the demands/offers formulated by the users (C_x) of data processing system and in that information is sent to the transportation means to report transport demands/offers to them if the transportation means are near the goods or travelers to be transported and able to transport them.

The Patent Office

INVESTOR IN PEOPLE

Application No:	GB 0027408.4	**Examiner:**	Phil Osman
Claims searched:	All	**Date of search:**	13 November 2001

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): G4A (AUXF), (AUXX)

Int Cl (Ed.7): G06F 17/60

Other: Online: EPODOC, JAPIO, WPI, Internet.

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
A	WO 00/46686 A1	(DEALTIME.COM) Fig 1 & page 12 lines 16-31.	
A	US 6,131,087	(PLANNING SOLUTIONS GROUP) Abstract.	
A	US 6,035,289	(IBM) Abstract	
A	US 5,664,115	(FRASER) Abstract	

X	Document indicating lack of novelty or inventive step
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.
&	Member of the same patent family
A	Document indicating technological background and/or state of the art.
P	Document published on or after the declared priority date but before the filing date of this invention.
E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

An Executive Agency of the Department of Trade and Industry